

**REMARKS**

The drawings are objected to. Claims 1, 4, 8, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawkins (4,935,752) in view of Fujita (5,666,142). Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawkins (4,935,752) in view of Fujita (5,666,142) and further in view of Ozaki et al. (6,402,302). Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawkins (4,935,752) in view of Fujita (5,666,142) and further in view of Device Electronics for Integrated Circuits (Muller). Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawkins (4,935,752) in view of Fujita (5,666,142) and further in view of Leban (EP 317 171).

**1. Objection to the drawings:**

The drawings are objected to because in Fig.4, Ref. No. "19" is not shown. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

**Response:**

Near the center portion of Fig.4 is a reference number "19" indicating a power line. Description of the power line 19 is also given in paragraph [0027] of the specification. The applicant is unsure as to what the examiner is objecting to. If an objection to Fig.4 still exists, the applicant respectfully requests that the Examiner clearly point out the error in Fig.4. If no error exists, acceptance of the drawings is requested.

**2. Rejection of claims 1, 4, 8, 9, and 12 under 35 U.S.C. 103(a):**

Claims 1, 4, 8, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawkins (4,935,752) in view of Fujita (5,666,142) for reasons of record, as recited on pages 2-3 of the above-indicated Office action.

**Response:**

The applicant wishes to point out how claim 1 is patentably distinct from both Hawkins and Fujita. Claim 1 of the present invention contains the limitation of a second conductive trace that electrically couples a functional device with a bubble generator and also couples the functional device with a first conductive trace.

The examiner has stated that even though Hawkins has not specifically shown a second conductive trace, the second conductive trace would necessarily be connected to a driving element that supplies the electrical signals to the bubble generator. However, even if a second conductive trace were inherently necessary in the Hawkins patent, there is no teaching, suggestion, or motivation for the second conductive trace to couple a functional device with a bubble generator and to couple the functional device with a first conductive device.

Fujita shows a functional device and a bubble generator formed on the same substrate, as is required in the limitations of claim 1. However, Fujita also does not show a second conductive trace that couples both the functional device with the bubble generator and the functional device with the first conductive device.

For these reasons, the applicant submits that claim 1 is not unpatentable over the combination of Hawkins and Fujita. Claims 4, 8, 9, and 12 are dependent on claim 1 and should be allowed if claim 1 is allowed. Reconsideration of claims 1, 4, 8, 9, and 12 is respectfully requested.

**3. Rejection of claims 2 and 3 under 35 U.S.C. 103(a):**

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawkins (4,935,752) in view of Fujita (5,666,142) and further in view of Ozaki et al. (6,402,302) for reasons of record, as recited on page 4 of the above-indicated Office action.

**Response:**

The applicant wishes to point out how claim 2 is patentably distinct from Hawkins, Fujita, and Ozaki. Claim 2 of the present invention contains the limitation of a contact layer positioned between the first conductive trace and the second conductive trace to electrically couple the first conductive trace with the second conductive trace. Neither Hawkins nor Fujita teach the contact layer positioned between the first conductive trace and the second conductive trace to electrically couple the first conductive trace with the second conductive trace. Ozaki et al. teaches (in col.10, lines 65-67) contact pads for connection to circuit elements. However, Ozaki does not teach the contact layer for coupling the first and second conductive traces.

Therefore, claim 2 is not unpatentable over the combination of Hawkins, Fujita, and Ozaki. Furthermore claims 2 and 3 are dependent on claim 1 and should be allowed if claim 1 is allowed. Reconsideration of claims 2 and 3 is requested.

**4. Rejection of claims 5-7 under 35 U.S.C. 103(a):**

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawkins (4,935,752) in view of Fujita (5,666,142) and further in view of Device Electronics for Integrated Circuits (Muller) for reasons of record, as recited on pages 4-5 of the above-indicated Office action.

**Response:**

Claims 5-7 are dependent on claim 1 and should be allowed if claim 1 is allowed. Reconsideration of claims 5-7 is requested.

**5. Rejection of claims 10 and 11 under 35 U.S.C. 103(a):**

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawkins (4,935,752) in view of Fujita (5,666,142) and further in view of Leban (EP 317 171) for reasons of record, as recited on pages 5-6 of the above-indicated Office action.

**Response:**

Claims 10 and 11 are dependent on claim 1 and should be allowed if claim 1 is allowed. Reconsideration of claims 10 and 11 is requested.

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Respectfully submitted,

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